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MAY 02 2007

Application No.: 10/561,262  
Amendment dated May 2, 2007  
Reply to Office Action of February 2, 2007

Docket No.: 4590-466

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1-9 (Canceled).

10. (Currently Amended): An X-ray generator tube comprising:  
an electron gun emitting an electron beam,

an anode unit comprising a target carrier assembly having a flat surface known as the target onto which the electron beam is focused in a focusing spot, the target carrier assembly having an axis of revolution substantially perpendicular to the mean direction of the electron beam and passing through the plane of the target, the target carrier assembly comprising at least one internal cooling-fluid-circulation duct passing through the target carrier assembly in a direction substantially parallel to the axis of revolution of the target and passing under the target in order to cool the target, the duct comprising a central part known as an exchanger placed under the target and formed of several secondary ducts of cylindrical shape and with generating lines parallel to the axis of revolution of the target carrier assembly.

11. (Previously Presented): The tube as claimed in claim 10, wherein the target carrier assembly is of cylindrical shape overall with a circular cross section, the target being situated in a plane passing through the axis of revolution of the cylinder and the anode unit comprising a housing, also of cylindrical shape overall and in which said target carrier assembly is housed such that the axis of revolution of the target carrier assembly passes through the focusing spot.

12. (Canceled).

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13. (Canceled).

14. (Currently Amended): The tube as claimed in claim 10[[3]], wherein the cross section of the secondary ducts is circular.

15. (Previously Presented): The tube as claimed in claim 14, wherein the secondary ducts have a diameter of a size greater than the thickness of the wall separating them.

16. (Currently Amended): The tube as claimed in claim 10[[3]], wherein the cross section of the secondary ducts is triangular or arch-shaped.

17. (Canceled).

18. (Currently Amended): The method for producing an anode unit assembly ~~as claimed in claim 17~~ comprising a target carrier assembly as claimed in claim 10[[4]], wherein the step of producing the target carrier assembly comprises the following substeps:

producing a first mechanical assembly of cylindrical shape overall comprising a main duct passing through said first assembly in a direction substantially parallel to its axis of revolution and in its central part a recess comprising a flat surface, the main duct opening into this recess;

producing a second mechanical assembly comprising a flat top surface and a bottom surface comprising identical grooves;

assembling the second assembly in the recess of the first assembly in such a way that the grooves are placed facing the flat surface of the recess, the top surface of the second assembly constituting the target, the collection of grooves of the second assembly and of the flat surface of the recess constituting so many secondary ducts that form the exchanger.